**CSE Week-7:**

**31.Write a Python program to Calculate Area of Triangle**

##Area= 1/2×Base×Height

def area\_of\_triangle(base, height):

return 0.5 \* base \* height

area = area\_of\_triangle(10, 7)

print(f"Area of the triangle: {area:.2f}")

**32. Find the Square of a number**

def square(num):

return num \*\* 2 # Exponentiation

# Example usage

num = float(input("Enter a number: "))

print(f"Square of {num} is {square(num)}")

33. Swap to variables

# Input values

a = 5

b = 10

# Swap using a temporary variable

temp = a

a = b

b = temp

print("After swapping:")

print("a =", a)

print("b =", b)

34. 34) To check whether the person is minor.

# Function to check if the person is a minor

def check\_minor(age):

if age < 18:

return "The person is a minor."

else:

return "The person is an adult."

# Get user input

age = int(input("Enter the person's age: "))

# Print result

print(check\_minor(age))

35. To check whether the entered year is leap year

# Function to check if a year is a leap year

def is\_leap\_year(year):

if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):

return f"{year} is a Leap Year."

else:

return f"{year} is NOT a Leap Year."

# Get user input

year = int(input("Enter a year: "))

# Print result

print(is\_leap\_year(year))

36. To check if a number is positive, negative, or zero using elif

# Function to check the number

def check\_number(num):

if num > 0:

return "The number is Positive."

elif num < 0:

return "The number is Negative."

else:

return "The number is Zero."

# Get user input

num = float(input("Enter a number: "))

# Print result

print(check\_number(num))

37. Function to check grade based on score

def check\_grade(score):

if 90 <= score <= 100:

return "Grade: A"

elif 80 <= score < 90:

return "Grade: B"

elif 70 <= score < 80:

return "Grade: C"

elif 60 <= score < 70:

return "Grade: D"

else:

return "Grade: F (Fail)"

**38.Program to find the largest number among ‘n’ given numbers**

numbers = list(map(float, input("Enter numbers separated by space: ").split()))

print("The largest number is:", max(numbers))

# Get user input

score = float(input("Enter your score: "))

# Validate score range

if 0 <= score <= 100:

print(check\_grade(score))

else:

print("Invalid score! Please enter a value between 0 and 100.")